

Commentary

Sir Ivan Magill KCVO, DSc, MB, BCh, BAO, FRCS, FFARCS (Hon), FFARCSI (Hon), DA, (1888-1986).

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INTRODUCTION

Ivan Whiteside Magill was born in Northern Ireland, and graduated from Queen's University Belfast Medical School just before the Great War. In his lifetime anaesthetics developed from an adjunct of surgery to a recognised medical speciality. His personal contributions included greatly improving the apparatus and specific techniques, and most prominently, his endeavour to raise the status of the anaesthetist. He initially showed a preference for surgery but after the Great War took an anaesthetist post in Sidcup, Kent, where he gained experience in anaesthetics for facial surgery. Magill also spent a significant period of his career in the Westminster and Brompton hospitals; this facilitated his further contributions to thoracic anaesthesia. Magill is regarded as a pioneer and inventor, which is attributed to his manual dexterity and obstinate tenacity when confronted with problems. This commentary is a discussion of these contributions and how they came about through Magill's own qualities and the opportunities that were presented to him. His work gained him many honours, including a knighthood in 1960 (Figure 1).

SIR IVAN MAGILL'S EARLY LIFE & CAREER

Ivan Whiteside Magill was born on 23rd July 1888 at 4 Barnhill Terrace (now 10 Curran Road), Larne, Co. Antrim, Northern Ireland (Figure 2). He was one of five children, his father Samuel Magill was a prominent businessman, councillor, Presbyterian and Freemason of Larne and his mother was Sara Magill (née Whiteside). He was educated at Larne Grammar School from 1900 to 1906 and he graduated from Queen's University, Belfast in 1913 (MB BCh BAO)¹. He was a keen sportsman both at school and university, competing in athletics, boxing and football².

He married Edith Robinson (the daughter of Thomas Robinson of Banbridge, Co. Down) in 1916. She was also a physician and worked as a school doctor with the London County Council. They had no children. It is surprising that in 1920 Queen's University, Belfast rejected Magill's MD thesis, which was based on endotracheal anaesthesia as it considered this unlikely to be of much value. However they accepted his wife's thesis¹.

Upon qualifying, Magill was issued with a certificate confirming that he had, in his training, administered one anaesthetic in the Royal Victoria Hospital, Belfast (Figure 3). During Magill's era of education this was the only statutory



Fig 1. Ivan Magill (Reproduced with kind permission from Blackwell Publishing, original source see reference 16)

requirement for training in anaesthesia. Surprisingly the certificate was signed by the Honorary Secretary of the Royal Victoria Hospital Medical Staff and the Surgical Registrar at the Hospital. No anaesthetist was involved, which is evidence of the position of anaesthetics at that time³. Magill later commented that as a student in 1910 on attending an operation, he was struck by the fact any qualified doctor was

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Fig 2. 10 Curran Road. (Taken 11th April 2007).

expected to be able to give an anaesthetic for any operation. He considered his certificate gained on graduation inadequate training and claimed to be frightened of this 'onerous task'⁴.

The only available anaesthetics were chloroform, ether, ethyl chloride and nitrous oxide. These early agents and basic apparatus available prevented the elaboration of surgical techniques and control of the patient's vital functions. These first three agents were inhaled through a covered mask and were only adequate for primitive procedures. Unfortunately the use of a mask covering the nose and mouth severely hindered the surgeon's access to the face and neck if surgery was required in this area. Other common problems included that of 'paradoxical' respiration in thoracic surgery and insufficient muscle relaxation for extensive abdominal surgery³. Several of these problems were addressed and solved by Magill during his lifetime's work.

Immediately after qualification, Magill moved to England and initially worked in general practice in Leicester. He became House Surgeon and subsequently Resident Medical Officer in Stanley Hospital, Liverpool and then Resident Medical Officer at Walton Hospital. At this time Magill showed a preference for surgery as shown by his choice of posts, and not anaesthetics. With the start of the Great War in August 1914, Magill took a temporary Commission in the Royal Army Medical Corps (RAMC). He served as Captain in the RAMC for the remainder of the War, and acted as Medical Officer to the Irish Guards at the Battle of Loos and worked in a field hospital near Rouen⁵.

After the end of the War, Magill was posted to the Barnet War Hospital (now Barnet General Hospital), where he administered occasional anaesthetics. In early 1919 he became an anaesthetist in the Queen's Hospital for Facial and Jaw Injuries at Sidcup, Kent (now Queen Mary's Hospital). Magill stated that he took the job at Sidcup as his wife was then living in London and he had seen 'Sidcup' written on the back of a bus!⁴ As a newly posted officer his workload included "administering some of the most difficult and hazardous anaesthetics". His colleague Stanley Rowbotham commented that these difficult cases not only "intrigued Magill, but stimulated in him an obstinate tenacity, the result perhaps of his northern Irish descent." This is described as the start of Magill's real life's work⁵.

ENDOTRACHEAL INTUBATION

Magill's employment at Sidcup, as an anaesthetist for surgery of facial injuries, was the beginning of endotracheal intubation, for which he is well known. At this time the best available method for general anaesthesia in facial surgery was by endotracheal insufflation through the mouth or nose. This involved the use of a gum elastic catheter placed into the pharynx, through which air was driven by a motorised pump with the addition of vaporised ether from Shipway Apparatus heated in hot water⁶. Endotracheal insufflation allowed freedom of the airway, reduced the chances of anaesthetic shock and the lack of respiratory effort did not put strain on the patient. Tissue trauma was generally small and confined to the skin; it was also possible to give the least amount of anaesthetic agent possible thus improving the patient's general condition⁷. However it still allowed partial respiratory obstruction, commonly by the tongue or pressure on the lower jaw. This would produce hyperpnoea, with laboured expiration, consequent congestion and increased haemorrhage at the operation site⁸. Another disadvantage as commented by Harold Gillies (surgeon) to Magill: 'Maggi – You seem to get this anaesthetic into the patient alright, don't you think you could devise some method of getting it out, so that I am not anaesthetised?'⁴. As the patient's expirations were blown out alongside the catheter a surgeon working on facial injuries was subjected to anaesthetic-laden expirations, and if any blood entered the pharynx this was sprayed on the surgeon too. Magill commented that this was deleterious to both the surgeon's 'temper and technique'⁸.

In 1922 the solution to this expiration problem was dramatically solved when Magill was in theatre with a soldier who was having extensive surgery on a deformed jaw. As earlier described, a catheter had been passed through the nose, however the deformity and contracture of the lower jaw prevented adequate expiration and the patient's breathing became laboured. Magill passed a second tube through the patient's nose which entered the trachea alongside the catheter, the relief which followed left no doubt as to the value of two tubes⁴. So from 1923 Magill routinely used and wrote of the importance of the provision of adequate expiration with the endotracheal insufflation technique. He advocated the use of a firm-walled rubber tube of sufficient calibre to pass into the pharynx alongside the catheter; the pharynx could then be packed with gauze. In continental clinics a double channel catheter could be used however this was not available in the UK⁸.

Magill further explored the use of naso-tracheal intubation as it allowed the surgeon to work in the area of the mouth, which was often required in Sidcup. The main advantages of this route were considered to be the requirement of only light anaesthesia without muscle relaxation, and the elimination of damage to teeth or growths in the mouth⁹. Magill was keen to suggest the cocainization of the larynx and fauces to diminish the activity of the reflexes in the upper air passages to aid intubation¹⁰.

Blind nasal intubation was first developed and described by Magill in 1928, with a demonstration given to the Society of Anaesthetists (Liverpool) in 1932¹¹. This involved the passage of rubber tubing, which was curved due to storage in coils, which had an obliquely cut distal end, sterilised and then lubricated with soft paraffin. The position required of the patient's head for insertion was described by Magill as that of when a man 'scents the air', which in most cases allowed easy passage of the tube into the trachea. However if this is not achieved initially, it was described that gentle manipulation of the tube would often allow passage without the requirement of forceps, which would cause damage to both the tube and patient. Magill was commonly asked, with reference to this method: 'How do you know the tube is in the trachea?'. His answer was that obviously the presence of breath sounds was the best indicator⁹. Many questions were raised about endotracheal anaesthesia, with the major concerns being, the possible occurrence of sudden death, and the dissemination of precise instruction in the method. Magill's main response to this concern was the requirement of dexterity in passing the catheter and the fact that it should be well lubricated¹². In 1930 Magill published further instruction in the use of this technique, necessitated by the interest it had created. He claimed that most of the advantages of endotracheal anaesthesia were available if the anaesthetists would trouble themselves to master the technique of intubation, allowing the disadvantages to become insignificant. A major issue was that in Sidcup he was carrying out the procedure everyday due to the nature of the operations, however in other hospitals this technique might only occasionally be required⁹.

Magill's experiences further developed the administration of anaesthesia, when in his private practice he was approached by a 24 year old lady with very extensive injury in the eye area. Previously she had been anaesthetised seven times and now refused the use of ether or chloroform due to unpleasant experiences. At that time Magill could not afford to turn away patients and so considered other less conventional methods. He decided upon the use of nitrous oxide and oxygen, but insufflation was an inadequate method for administration. This was the origin of the wide bore tube for to and fro breathing, which the patient was satisfied with, commenting that she 'didn't mind having that again'⁴.

At an historic meeting of the Section of Anaesthetics of the Royal Society of Medicine on 6th December 1974, Magill was asked to speak on his contributions to anaesthetics, specifically intubation. He noted that the majority of general anaesthetics were now given by endotracheal route unless there was some contraindication. This was significant due to the reluctance with which this method had been met when he first began to use it routinely. In this address he admitted that his personal preference had been for the nasal route, however

the development of laryngoscopy and muscle relaxants should now give preference to the oral route due to the development of cuffed tubes⁶.

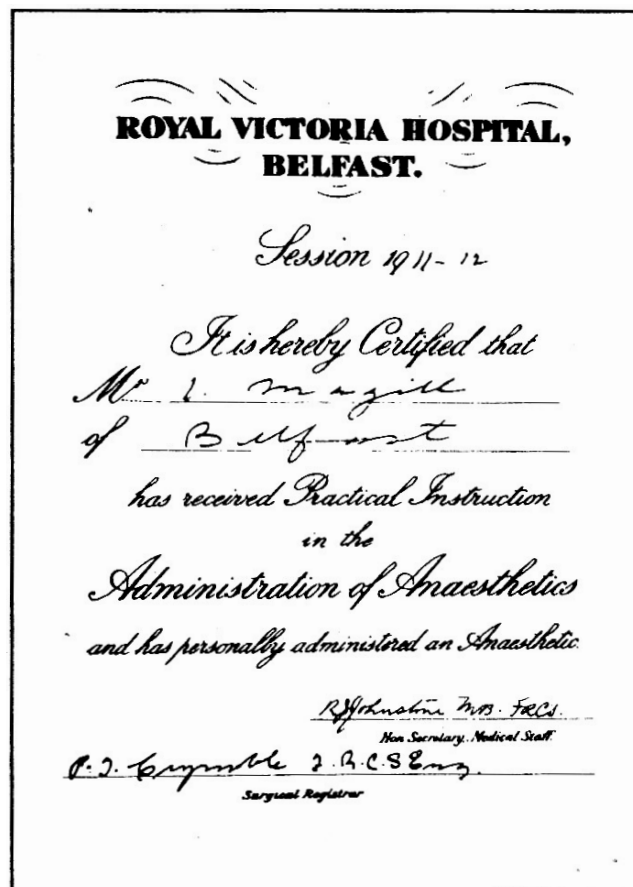


Fig 3. Certificate of Practical Instruction in the Administration of Anaesthetics issued to Mr Ivan Magill, Royal Victoria Hospital, Belfast, Session 1911-1912. (Reproduced with kind permission of Professor Cyril Conway, Magill Department of Anaesthetics, Westminster Hospital, London).

APPARATUS

In parallel to the development of anaesthetic techniques Magill also experimented with, designed, and developed the necessary apparatus for them. The first publication by Magill was a description of forceps for intratracheal anaesthesia in 1920. He claimed they were superior to the guiding rod advocated for the same use by his colleague Rowbotham. Their grasp caused no injury to the end of the catheter and so no pieces of friable material would be left in the trachea. He also explained that they aided a clearer view as they could be used with or inside a speculum¹³. Today these forceps, still referred to as 'Magill forceps', can easily be commonly described by anaesthetists and particularly ENT surgeons. However their requirement has somewhat diminished with the development of intubation apparatus. One surviving significant use is in the removal of foreign bodies from the pharynx and occasionally larynx by the ENT surgeon (Adams DA. personal communication, 17 April 2007).

Magill's next publication of apparatus was in 1921 when he described a portable apparatus for tracheal insufflation

anaesthesia (figure 4). This apparatus delivered warm ether in air by insufflation¹⁴. Although he admitted that it was not superior to the more elaborate forms already on the market, its compactness would be a valuable asset for use in private practice as anaesthetists were itinerant¹. This apparatus also had no need of mercury or a glass safety valve, and there was no need to decant ether from the bottle to a special container, which Magill considered advantageous over rival models.

In 1923 Magill put forward his second anaesthetic apparatus, which was for the administration of nitrous oxide, oxygen and ether¹⁵. This apparatus was also portable, and allowed the easy variation of both gases to meet the requirements of the individual patient, and could deliver the gases under positive pressure if indicated. In 1927 he further published an apparatus which he described as 'a fusion into one composite unit of an endotracheal ether insufflation apparatus and a nitrous oxide and oxygen apparatus'¹⁶. This was a combination of both earlier apparatus described in 1921 and 1923.

Again in 1932 Magill improved upon the 1927 apparatus by incorporating dry gas flow meters and a sparklet attachment for provision of carbon dioxide. This apparatus was referred to as endotracheal apparatus, implying the use of the more modern wide-bore tube. This is regarded as the first apparatus to include the use of a wide-bore fresh gas outlet, however no published description of this apparatus has been found¹⁶.

The 'Magill attachment' is another well known piece of equipment, which was featured on all anaesthetic machines in the UK for over 50 years! It was a simple combination of a breathing tube, reservoir bag and expiratory valve, used for spontaneous respiration¹⁷.

The improved laryngoscope for anaesthetists published by Magill in 1926, is another invention that requires mention¹⁸. It was made of stainless steel and boasted features that proved useful in the passing of catheters and accompanying expiratory tubes. These features included efficient illumination from a lens-fronted electric bulb, and the lug at the proximal end of the handle afforded a purchase for the thumb to manipulate the instrument into the correct position. The most significant features were that the distal end of the speculum was flat, wide and tilted slightly upwards, giving advantage in control of the epiglottis, and a slot at the side had sufficient width to pass catheters and tubes for expiration without obstructing the visual field.

Magill's ingenuity also extended to his development of rubber tubes, firstly for expiration and subsequently for wide-bore to and fro breathing¹⁹. Magill considered that rubber was the best material available as it was atraumatic and due to its storage in coils had a natural curve. He could also smooth the distal end to an oblique angle with emery paper⁶. It was comparatively innocuous in contact with mucous membranes, combined flexibility with resilience, and was easily sterilized and cheap. For his method of blind nasal intubation the appropriate length could be calculated as twice the distance between the ear lobe and the ala of the nose of the patient²⁰. At the time the only rubber tubing in hospitals was that of drainage tubes, however this did not have the necessary consistency. Magill would describe at length the difficulty he had obtaining suitable tubes, as manufacturers were completely disinterested in anaesthetic apparatus at the time. Originally

Magill approached a rubber shop in Tottenham Court Road and came to an arrangement with the owner that he would be given the tail ends of the rubber tubing that was stored in coils. This continued until a bomb destroyed the shop during the Second World War. Later with the assistance of Charles King, Magill managed to get the rubber tubes manufactured to his specific specifications⁴.



Fig 4. Magill intratracheal apparatus 1921. (Photograph reproduced with the kind permission of the Association of Anaesthetists of Great Britain and Ireland).

ANAESTHESIA FOR THORACIC SURGERY

When the level of work reduced in Queen's Hospital after the Great War Magill decided to devote his professional life to the administration of anaesthetics, and was soon elected to the staffs of various hospitals in London. Finally he chose Westminster Hospital and the Brompton Hospital for Diseases of the chest as his main bases. He also had a large Private Practice in London¹⁷. During the Second World War Magill stayed in London, where he narrowly escaped death when his house in Wimpole Street was bombed in 1941. It was during his employment in these hospitals that he developed the use of anaesthetics in thoracic surgery, as this was now the bulk of his work⁵. It was generally considered that the field of thoracic surgery only extended so rapidly due to the diminution in anaesthetic risk brought about by his improvement in anaesthetic method²¹.

His residence as 'Chloroformist of the Westminster Hospital' began in 1924. At this time routine anaesthetics in thoracic surgery were by local and only light anaesthesia to maintain the cough reflex which was considered necessary due to the copious amounts of purulent lung secretions¹. By 1930 Magill had begun to publish his experiences and recommendations in the use of anaesthesia in thoracic surgery. He discussed that thoracic surgery could be divided into two types of operation: Firstly those that were superficial, where he considered a positive pressure was not absolutely necessary. And secondly surgery involving tumours, retrosternal goitres and removal of the larynx, these he concluded should have a pneumothorax induced prior to surgery on the affected side, and so a positive pressure was essential. In superficial operations he warranted the use of only local anaesthesia, but for major thoracic operations considered that local combined

with general anaesthesia was required. For general anaesthesia he preferred the use of nitrous oxide and oxygen by face-piece administration, and claimed that only selected cases required the use of endotracheal insufflation²¹. In 1930 he published an article outlining his experiences specifically in administration of anaesthesia for thoracoplasty in pulmonary tuberculosis²².

In 1936 Magill published more work on the use of anaesthetics for thoracic surgery as he saw that this type of surgery was becoming more common in general hospitals, he hoped that other anaesthetists could benefit from his experiences, being regularly engaged in this specialisation²³. Magill discussed many pre-, intra- and post-operative considerations with the undertaking of thoracic surgery. He admitted that he needed to correct some of his earlier impressions in the light of his experience, however he felt that there was still no unanimous decision as to which technique is best. He now preferred the use of nitrous oxide with oxygen and cyclopropane, however this was only if diathermy was not required. He still considered that intubation was only indicated if suction was really necessary, as in lobectomy and pneumonectomy for bronchiectasis. If intubation was undertaken Magill considered three possible methods: Firstly with endotracheal anaesthesia a catheter is also passed into the trachea or bronchus of the affected side, so that suction could be applied when needed. Secondly, as suggested by Waters, the passage of a tube into the bronchus of the sound side with inflation of a rubber balloon at the bifurcation of the trachea. Lastly, endotracheal anaesthesia combined with the insertion into the bronchus on the affected side a suction catheter bearing a balloon to close off the main bronchus. The latter method he showed preference for as it provided suction without interference with anaesthesia, and it could also be extended to only the lower lobe in a lobectomy.

MAGILL'S CONTRIBUTION TO THE USE OF DRUGS AND GASES

During Magill's career he was keen to develop the use of anaesthetics and this involved the introduction of new agents, comparing their use to previously known agents. Many published articles on this topic were written by his colleague Rowbotham although he contributed significantly to their trials. These drugs included paraldehyde, barbiturates and evipan (hexobarbitone)²⁴.

In 1921 Magill wrote to the *Lancet* in order to defend an earlier publication of his apparatus for tracheal insufflation¹⁴, which included the warming of ether vapour for inhalation²⁶. This method had been criticised by Dr KB Pinson, who implied there was opportunity for the flammable ether to be ignited by the gas lamp. Magill maintained this was not so and that the adequate heating of ether-laden air was an important factor in preventing pulmonary complications.

Magill added to the discussion on ethylene anaesthesia in 1930 that it had no particular advantages over current available anaesthetics, and that the smell was 'certainly objectionable'²⁶.

Magill was directly responsible for introducing Nembutal (phenobarbitone) to the UK. This he brought back from USA and supported its use intravenously for basal anaesthesia¹.

In 1936 in his discussion of thoracic surgery he described cyclopropane as a 'godsend in surgery of the chest'²³. Again in 1953 he documented his initial use of Arfonad (trimetaphan) which he also sought from the USA¹.

THE ESTABLISHMENT OF THE DIPLOMA IN ANAESTHETICS

Another interest of Magill's was in the status of anaesthesia as a speciality in its own right¹. It is well acknowledged that the original idea of general anaesthesia came from Henry Hill Hickman in 1824, a young surgeon from Ludlow who had tried in vain to interest the medical profession in England and France. It was not until 15 years after his death that his dream came to fulfilment in 1846, progress was however slow, which was due in part to the death of John Snow. Even before the Great War very few doctors devoted their practice wholly to anaesthetics. As discussed earlier, teaching of anaesthetics was scarce; it was noted in 1912 that only eight out of twenty-two authorities examining for, and granting registerable medical qualifications, made any recommendations about instruction in anaesthesia²⁷. However, a newly qualified doctor could be called upon to give anaesthetics for any operation regardless of the patient's condition, although undertaking of major surgery was not expected unless it was an emergency. Surgeons regarded the choice of anaesthetics as their prerogative, and the anaesthetist had perforce to abide by the surgeon's decision, sometimes against his better judgement. The surgeons attached undue weight to their own operating comfort, and regarded anaesthesia as only perfect when their demands had been met, with little concern for the ultimate effect on the patient. These demands often expected the anaesthetist to be something of a wizard²⁸.

When Magill first began his career there was only one established venue where anaesthetists met to discuss their problems and exchange experiences, this was the Section of Anaesthetics at the Royal Society of Medicine. This had developed in 1908 from the old Society of Anaesthetists⁵. Magill was keen to promote the specialization of anaesthetics on the grounds of the variety of agents and techniques available and their real dangers which may attend their use by inexperienced doctors²⁷. Initially Magill approached the Royal Society of Medicine, but was informed that such a project was entirely outside the scope of the Section of Anaesthetics, as under their charter they could only deal with scientific subjects⁵. At this time Magill was the honorary Secretary of the Section of Anaesthetics of the Royal Society of Medicine, which he had been appointed to in 1931. In 1932 several members of the Section of Anaesthetics met and decided to establish an independent body to be called the Association of Anaesthetists. The establishment of the diploma in anaesthetics was one of five objectives of this body founded by Featherstone. However, in the second general meeting it was noted that at that time it was not considered right for the introduction of a Diploma in Anaesthetics. This negative attitude may have been lobbied by some officer's fear of having to sit an examination. It was also discussed that some of the members still felt strongly that the advantages of a special qualification would soon be great enough to justify its introduction.

Two months after this cautious start, the Council discussed that Dr Magill should be asked to produce the correspondence

he had had with the Society of Apothecaries relating to the proposal, as this was a body able to grant chartered diplomas. Subsequently on 16th February 1934, Magill was able to propose steps that could be taken to inaugurate a Diploma in Anaesthetics, these were accepted and a subcommittee of Magill, Hadfield and Bloomfield was appointed to make recommendations. At this time the honorary American member of the Association Francis H McMechan was also asked to provide information on the status of the anaesthetist in the USA, however this was of little help due to the similar confusion within their country. Unofficially the President of the Royal College of Surgeons of England was consulted on the subject and reacted favourably, suggesting an official approach to the College²⁹.

The meeting with the Royal College of Surgeons of England took place on Friday 2nd November 1934, the proposals of the Association were favourably received and the Diploma was put under the wing of the Conjoint Examining Board in England of the Royal College of Physicians of London and the Royal College of Surgeons of England. Regulations were agreed by May 1935 and published in the British Journal of Anaesthesia in the following July, the original proposals by the Association of Anaesthetics were slightly modified to be less demanding. The examinations were to be held in May and November of each year, with the first held on 8th November 1935 with 46 successful candidates²⁹.

Magill was on the original Board of Examiners for the Diploma, although he didn't enjoy examining and his standards were considered too high. This resulted in his fellow examiners quickly persuading him to retire from the board¹. The establishment of the Diploma in Anaesthetics led to the foundation of the Faculty of Anaesthetics in 1948².

ROYAL ANAESTHETICS GIVEN BY MAGILL

During his career Magill anaesthetised several members of the Royal Family, and also many foreign dignitaries. In 1937 he anaesthetised the Dowager Duchess of Gloucester, attended Princess Margaret's appendectomy in 1955 and later attended the Duke of Windsor, Prince Charles and Princess Anne¹.

MAGILL'S RETIREMENT

Magill served the Westminster and Brompton Hospitals throughout the Second World War, and also became adviser to the Ministry of Health, where he laid down the foundation of the anaesthetic section of the present National Health Service. He also became adviser to the Emergency Medical Service and the Forces¹.

Upon retirement from his Health Service posts in 1955, he continued to work in London and gave his last anaesthetic at the age of 84. Magill lead a fiercely independent life, although this became more secluded after the death of his wife Edith in 1973¹. He moved into what he called his 'pad' on Hallam Street so that he might meet friends from the Harley Street area and regularly attend the Royal Society of Medicine². On the occasion of Magill's 90th birthday, the late Bryn Thomas held a symposium at a meeting of the Section of Anaesthetics of the Royal Society of Medicine on the 9th July 1978. This was attended by over 200 members and guests in Barnes Hall and was followed by an evening reception. It was noted that 11 ex-presidents were in attendance, for some of which this

1937 – President of the Anaesthetic Section of the Royal Society of Medicine
1938 – The Henry Hill Hickman Medal by the Anaesthetic Section of the Royal Society of Medicine, the highest award anaesthetics could offer.
1939 – Ulster Medical Society Robert Campbell Memorial Orator
1945 – Honorary Doctorate of Science by Queen's University, Belfast
1946 – Commander of Royal Victorian Order
1951 – Arnott Commemoration Medal by Irish Medical Graduates Association
1956 – Honorary Fellow of the Royal Society of Medicine
1958 – John Snow medal
Honorary Fellow of the Faculty of Anaesthetists
Honorary Fellow of the Association of Anaesthetists
1960 – Knighted KCVO by the Queen
1963 – Canadian Anaesthetists' Society medal
1965 – Gave the Frederick Hewitt Lecture
1966 – First recipient of the Ralph Waters award
Gillies Gold Medal and Gillies Memorial Lecture
1970 – The Academic Department of Anaesthetics at Westminster Hospital was renamed the Magill Department of Anaesthesia

was their first attendance for many years. Magill's connection with the Royal Society of Medicine spanned over 57 years and was the audience to many of his papers. It was commented that Magill's own adult lifetime covered 2/3 of the 122 years of the life of anaesthesia itself. Tributes were paid to Sir Ivan Magill in short papers by colleagues, friends and students. Magill was referred to as the doyen of British anaesthesia, only second to John Snow. The audience were reminded of his significant contributions to the development of techniques, apparatus, the status of anaesthetics and quality of care of his patients. He was described as having natural modesty, kindness and helpfulness. Magill's brief reply centred on a plea that clinical anaesthesia, and especially care of the patient, should remain the primary concern for all anaesthetists. The standing ovation he received was a poignant show of the respect he had received over his lifetime from anaesthetists³⁰. He was awarded several major honours in his lifetime (Table I).

He continued to attend the Royal Society of Medicine regularly until just before his death. He passed away peacefully on 25th November 1986, in what he would have referred to as his 99th year.

CONCLUSION

Sir Ivan Magill is regarded as a worldwide doyen of anaesthesia³². His lack of a medical background was no hindrance to his career as an innovator and pioneer. Many of his prototype devices Magill made in his own back room, and when faced with a challenge, like the lack of a manufacturer of rubber tubes, his persistent attitude discovered an alternative source, even if it meant finishing each item himself. Magill's papers provided an epitome of the history of anaesthesia of that period. Throughout his career Magill retained a progressive outlook, his ability to change his opinion and practice in the light of new developments allowed the great advances he achieved. Initially he set about making himself a good anaesthetist, then improved and perfected the methods already in use, before designing new ones. His preference for practical teaching, by demonstration and example, set the high standard of anaesthetic care that he expected. Many areas of medicine apart from anaesthetics have benefited from his career. It is recognised that plastic and thoracic surgery's advancement at that time was only possible because of Magill and his inventions. During the period of rapid advancement in anaesthesia Magill provided the foundation for anaesthetic training, postgraduate examination and the present status of the speciality¹.

Magill was always one of the first to admit that the goal of perfection in anaesthesia has not yet been reached. However modest his character, his contribution to anaesthetics is obvious given the fact that his knighthood was only the fourth presented to an anaesthetist in 122 years of anaesthetics². He frequently reminded his audiences that no matter what the future held in relation to new drugs and new methods, the true basis of success would always lie in the accumulation of knowledge, which can only be obtained through the 'tedious acquirement of practice'²⁸.

The author has no conflict of interest

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